

The Wisconsin Karner Blue Butterfly Habitat Conservation Plan Summary of 2004 Monitoring Activities

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Prepared by:

Jaime Thibodeaux
Dave Lentz
Karner Blue Butterfly HCP
Division of Forestry
and
Paul Rasmussen
Division of Science Services

Wisconsin Department of Natural Resources

Introduction

The Wisconsin Karner Blue Butterfly Habitat Conservation Plan (HCP), approved in September of 1999, established a statewide program for Karner Blue Butterfly conservation in Wisconsin. The Wisconsin Department of Natural Resources (WDNR) is authorized to oversee implementation of the HCP and the activities described in the implementing agreement with the US Fish and Wildlife Service (Federal Fish and Wildlife Permit No. TE0100064-4). With this agreement, the WDNR and the HCP partners must document that “[HCP] authorized activities will not appreciably reduce the likelihood of the survival and recovery of the Karner Blue Butterfly in the wild” (USFWS Permit No. TE0100064-4, page 4). Monitoring is therefore a critical component of the HCP, and should demonstrate whether or not HCP partners are conserving Karners and their habitat, while still conducting planned land management and development activities (and associated incidental take of Karners) authorized by the HCP. Each year, HCP partners’ organizations conduct surveys for Karner Blue Butterflies and/or their host plant, lupine.

Prior to the year 2004, the WDNR had operated under the following goals for the HCP monitoring:

- ☞ *Detect statewide trends in Karner habitat*
- ☞ *Locate new Karner and lupine sites*
- ☞ *Determine the relative abundance of Karners within the state of Wisconsin*

In December of 2003, it became clear that the past monitoring strategy was not clearly providing needed feedback to be used for adaptive management. In addition, efficient monitoring is needed in a time of budget and staff constraints for all partners. The year of 2004 has showed much progress with respect to re-assessing how and why the existing monitoring strategy was not achieving all the plans objectives, and redesigning the monitoring program to meet HCP objectives and economic realities. Many of the basic monitoring procedures and protocols remain in tact. The biggest changes are in “where” partners perform monitoring (site selection) and how data will be used in adaptive management (analysis).

Methods for Monitoring Strategy

Prior to 2004, monitoring had been conducted on two scales: pre-and post-management surveys for land managers, and “effectiveness monitoring” to determine statewide trends for Karners. Effectiveness monitoring consisted of a number of randomly selected sites within the Karner Blue habitat range assigned to partners according to the procedures outlined in the HCP, its appendices, and its associated guidelines (particularly Appendix G of the HCP, and the Wildlife Management Guidelines for the Karner Blue Butterfly). This form of monitoring was conducted from years 1998-2003.

For all monitoring, there are three types of surveys: 1) presence/absence of lupine (Level 1 surveys), 2) presence/absence of Karners (Level 2 surveys), and 3) relative abundance

of Karners (Level 3 surveys). All surveyors attend a training session offered annually by the WDNR, and record survey data on standardized forms that are developed and maintained by the WDNR. Monitoring information is typically summarized each fall by the WDNR and presented to partners and other interested parties. Past summaries are available upon request.

Through the course of the HCP, the US Fish and Wildlife Service (FWS) and the WDNR determined that the monitoring strategy was not answering management questions nor was it clearly providing specific details related to management activities needed for adaptive management. In addition, the monitoring protocols needed streamlining to accomplish providing required information during a time of budget and staffing constraints. A team of biologists was created to assist with the changing objectives of our monitoring. The Monitoring Improvement Team (MIT) was formed to evaluate the monitoring results against plan objectives, and revise the HCP monitoring strategy. This team kicked-off on December 10, 2003 with the following people playing the following roles:

Monitoring Improvement Team Members:

Cathy Carnes: FWS biologist and regulatory oversight
Dave Lentz: HCP Implementation Coordinator, MIT leader
Tim Wilder: US Dept of Defense, wildlife manager
Matt Krumenauer: ATC, Right of way manager
Joel Aanensen: Commercial Forester
Bob Hess: County/Public Forester
Paul Rasmussen: statistician
Scott Swengel: lepidopterist
Jaime Thibodeaux/Scott Bernstein: data manger
Rich King: FWS Necedah, monitoring and statistics
Paul Kooiker: DNR wildlife manager, recovery monitoring

Additional ESA guidelines which were not available when the HCP monitoring strategy was drafted had since been published. These were helpful in assessing the HCP's monitoring program. The ESA HCP monitoring guidance from FWS states that HCP monitoring should obtain the information necessary to:

- ☞ *Assess compliance*
- ☞ *Assess project impacts*
- ☞ *Verify progress toward the agreed upon biological goals and objectives*

The monitoring improvement team's task is working to assure that these objectives will be achieved in improved monitoring program.

Results of the Monitoring Improvement Team (MIT)

The monitoring improvement team has decided that the prior monitoring procedures were limited in providing answers to management questions. Starting in December 2003, the MIT has met seven times and will continue to meet until the new monitoring program has been completed. Much discussion and research went into determining main goals and priorities regarding the HCP and its implementation. Therefore, little concrete results were produced; only meeting minutes showing growth and maturity of our ideas of how to accomplish monitoring goals.

Accomplishments of the MIT in 2004:

- ☞ Created a list of adaptive management studies to assess impacts of management activities and efficacy of the HCP.
- ☞ Prioritized this list according to categories of uncertainty (routine management, experimental management, and basic research).
- ☞ Created a “Site Activity Questionnaire” for nine management activities of experimental uncertainty.
- ☞ Discussed and assessed the need for trend monitoring. Currently still working on a protocol.

Results of Monitoring Surveys

To avoid beginning new monitoring assignments that were not fully developed, which would result in unnecessary work for partners, the Service felt it would be prudent to take the time to do a thorough job of planning the new strategy and therefore agreed to a reduction in monitoring in 2004. All partners would continue to perform the following monitoring:

- ☞ New lupine and Karner sites
Change: *Instead of DNR HCP Data Mgr. randomly selecting these sites from a pool of partners' land ownership, partners were instructed to select sites themselves based on where they thought there was the greatest likelihood that lupine habitat would occur.*
- ☞ Pre- and post-management surveys

Total number of all Surveys completed: of 240 sites surveyed

ROW - 23 POH - 13 SM - 204

Lupine presence/absence (Level 1): of 203 sites surveyed approximately 50% had lupine

ROW - 15 POH - 10 SM - 178

Karner presence/absence (Level 2): of 37 sites surveyed approximately 40% had KBB

ROW - 8 POH - 3 SM - 26

Karner relative abundance (Level 3): No sites were surveyed.

2004 Monitoring Summary Table

Surveys by Management Strategy	Number of surveys performed	Lupine present or absent		Percentage of sites with significant lupine of those sites surveyed for lupine within row	KBB present or absent		Percentage of sites with KBB of those sites surveyed for KBB within row
		P	A		P	A	
<i>All Surveys Combined</i>							
ROW	23	--	--	--	--	--	--
POH	13	--	--	--	--	--	--
SM	204	--	--	--	--	-	--
Total All surveys	240	--	--	--	--	--	--
<i>Level 1 surveys (Lupine Presence or Absence – significant amount)</i>							
ROW	15	11	4	73.33	--	--	--
POH	10	4	6	40.00	--	--	--
SM	178	89	89	50.00	--	--	--
Total Level 1	203	104	99	51.23	--	--	--
<i>Level 2 surveys (Karner Blue Butterfly Presence or Absence)</i>							
ROW	8	--	--	--	4	4	50.00
POH	3	--	--	--	0	3	0.00
SM	26	--	--	--	10	16	38.46
Total Level 2	37	--	--	--	14	23	37.84
<i>Level 3 surveys (Karner Blue Butterfly Relative Abundance)</i>							
Total Level 3	NONE	--	--	--	--	--	--